Date of Report: 09/12/2014

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[X] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

[ ] 2. Interim Report #____.
[ ] Updating the initial funding request based on more accurate site data or design analysis
[ ] Status of accomplishments to date

[ ] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Whites Fire (July Complex)

B. Fire Number: CA-KNF-005497

C. State: CA

D. County: Siskiyou

E. Region: 5

F. Forest: Klamath

G. District: Salmon/Scott River

H. Fire Incident Job Code: P5H91E

I. Date Fire Started: 07/30/2014

J. Date Fire Contained: 98% on 9/12/2014

K. Suppression Cost: $48.2 million as of 9/08/2014

L. Fire Suppression Damages Repaired with Suppression Funds

1. **Fireline waterbarred (miles)**: Approximately 25 miles of handline and 28 miles of dozer line waterbarred.
2. **Fireline seeded (miles):** 0
3. **Other (identify):** All roads, staging areas, water drafting sites, etc. disturbed by suppression activities will be repaired to a condition that is as close to pre-fire condition as reasonably possible. Repairs include grading, back-blading berms, pulling vegetation over disturbed areas, re-shaping spur roads, etc.

M. Watershed Numbers:

Soil Burn Severity Acres by Watershed								
HUC Name	HUC	Very Low Burn Severity (Acres)	Low Burn Severity (Acres)	Moderate Burn Severity (Acres)	High Burn Severity (Acres)	Total Watershed Burned (Acres)	Total Watershed Area (Acres)	Percent Watershed Burned
French Creek	180102080203	102	248	65	0	415	21294	2%
Little North Fork Salmon River	180102100206	1	1	2	0	4	20823	<1%
Main East Fork South Fork Salmon River	180102100103	54	191	142	1	388	31378	1%
North Russian Creek	180102100204	1469	3762	1949	228	7408	11645	64%
South Russian Creek	180102100203	1603	4771	2617	502	9493	11819	80%
Sugar Creek-Scott River	180102080204	13	3	0	0	16	24947	<1%
Whites Gulch-North Fork Salmon River	180102100207	1664	5538	4170	708	12080	29446	41%
Yellow Dog Creek-North Fork Salmon River	180102100205	706	1983	1062	198	3949	16130	24%

Estimated acres of watershed burned includes both Klamath National Forest lands as well as Non-Forest Service lands.

N. Total Acres Burned:

[32,880] NFS Acres [ ] Other Federal [ ] State [873] Private

Soil Burn Severity Acres by Land Status					
Land Owner	**Very Low Severity (Acres)**	**Low Severity (Acres)**	**Moderate Severity (Acres)**	**High Severity (Acres)**	**Total Burned (Acres)**
Klamath NF	5378	16079	9822	1601	32880
Private	234	418	185	36	873
Total	5612	16497	10007	1637	33753

O. Vegetation Types:

The north facing slopes within the fire perimeters are occupied by mixed conifer forests dominated by Douglas-fir (Pseudotsuga menziesii Mirb. & Franco), sugar pine (Pinus lambertiana Douglas), ponderosa pine (Pinus ponderosa Lawson & C. Lawson), and incense cedar (Calocedrus decurrens (Torr.) Florin), with understories of mountain dogwood (Cornus nuttallii Audubon) in moist areas, and chinquapin (Chrysolepis chrysophylla (Hook.) Hjelmq.), Pacific madrone (Arbutus menziesii Pursh), California black oak (Quercus kelloggii Newberry), and canyon live oak (Quercus chrysolpeis Liebm.) in drier areas at the lower elevations. True fir forests of white fir [Abies concolor (Gordon & Glend. Hildebr.)] and Shasta red fir (Abies magnifica A. Murray var. shastensis Lemmon) with mountain hemlock (minimal understory components are found at the upper elevations. Riparian species include Sitka alder (Alnus viridis (Chaix) Lam. & DC), mountain alder[Alnus incana (L.) Moench subsp. tenuifolia (Nutt.)], American dogwood (Cornus sericea L.), and swamp current (Ribes lacustre (Pers.) Poir.)

The south facing slopes are generally shrubby, dominated by sticky white-leaf manzanita (Arctostaphylos viscida Parry), deer brush (Ceanothus integerrimus Hook. & Arn.) and snow brush (Ceanothus velutinus Douglas). Small outcrops of knobcone pine (Pinus attenuata Lemmon) are present and lend credence to the presence of past fire in the watersheds affected by the Whites Fire.

This area has the most diverse assemblage of conifers found anywhere in the world. The unique elements of vegetation in the Russian Wilderness consist of coniferous species that are relicts of a previous climate including Engelmann spruce (Picea engelmannii Engelm) and Brewer's spruce (Picea breweriana S. Watson).

P. Dominant Soils:

Gravelly to extremely gravelly loams of Deadwood, Holland, and Clallam Families; gravelly to very gravelly sandy loams of Gerle and Nanny Families; Entic Xerumbrepts.

Q. Geologic Types:

The eastern 1/3 of the Whites Fire perimeter is on the Russian Peak pluton with is a granitic body made up of tonalite, granodiorite and diorite. The western portion of the fire perimeter is underlain primarily by metavolcanic and metasedimentary bedrock of the Steward Fork and Sawyers Bar Terrains. The rock is mainly metamorphosed mafic rock and sea floor

sediments. The headwaters of South Fork Russian and Music Creek were glaciated during the last ice age which left them with steep, granitic cirques filled with glacial deposits. The glacial deposits also run the length of South Fork Russian Creek. The stream channels in the metavolcanic/metasedimentary rock are in inner gorges which are sensitive to disturbances such as fire and can become unstable. There are relatively few active landslides mapped (compared to other areas in the Klamath Mountains) and the dormant landslide deposits are less than 225 acres in size. There were a handful of debris flows in the fire area that have occurred specifically ones that initiated in the Music Creek Headwaters.

R. Miles of Stream Channels by Order or Class:

Flow Regime by Severity (Miles)					
Flow Regime	**Very Low Severity (Miles)**	**Low Severity (Miles)**	**Moderate Severity (Miles)**	**High Severity (Miles)**	**Total (Miles)**
Intermittent	18	43	21	4	**86**
Perennial	16	36	9	2	**63**

S. Transportation System (miles)

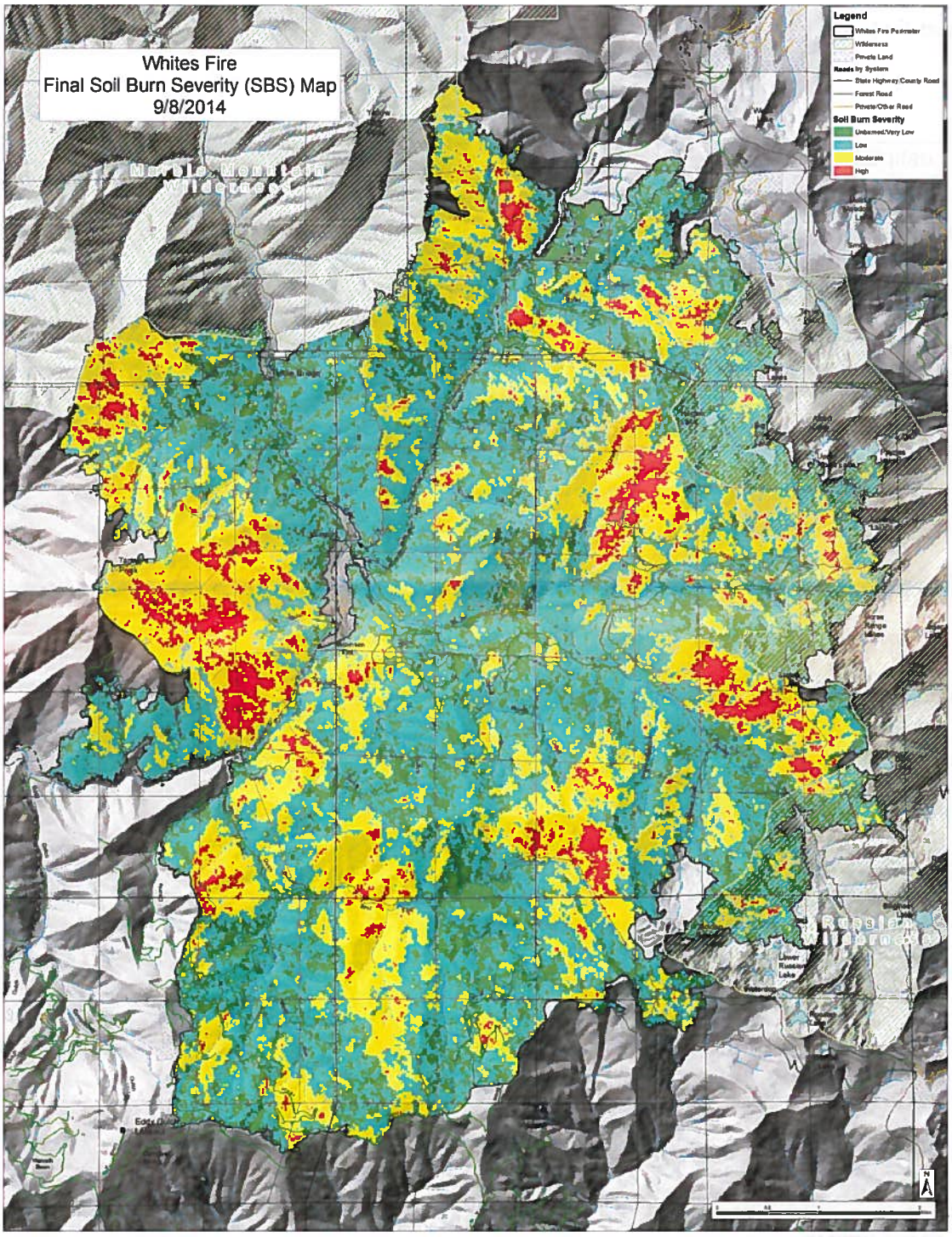
Trails: 24 **FS Roads:** 42 **County Roads:**10 **Private Roads:** 4

Miles of Roads by Severity					
	Very Low Severity (Miles)	**Low Severity (Miles)**	**Moderate Severity (Miles)**	**High Severity (Miles)**	**Total Burned (Miles)**
Trails	4	12	7	1	**24**
Klamath NF Roads	9	25	8	<1	**42**
County Roads	4	5	1	<1	**10**
Private Roads	2	1	<1	<1	**4**

PART III - WATERSHED CONDITION

A. Burn Severity (acres): (very low) 5,612 (17%) (low) 16,497 (49%) (moderate) 10,007 (30%) (high) 1,637 (5%)

The Whites Fire was started by lighting on July 31st, 2014 and burned a total of 33,753 acres, mostly on Forest Service land. The Whites Fire impacted a significant portion of the Russian Wilderness, the North Fork Salmon Wild and Scenic River, as well as geologic and botanical special interest areas.



B. Water-Repellent Soil (acres): acres: 5,000 (approx 40% of mod SBS + 60% of high SBS)

C. Soil Erosion Hazard Rating (acres):): 325 (low) 8,161 (moderate) 24,489 (high) 776 (very high) *note – most soils are moderate EHR in unburned (pre-fire) condition

Estimates include both Klamath National Forest Lands and non-Forest Service Lands.

D. Erosion Potential:

	Storm Event		
	2-yr	5-yr	10-yr
ERMiT estimated hillslope erosion (tons/acre)	4.5	12.7	18.8

ERMiT estimated hillslope erosion (tons/acre) extrapolated for the whole fire area. Model accuracy is +-50%.

E. Sediment Potential:) total fire 165K to 671K tons for a 2-yr to 10-yr runoff event, respectively; conversion to yd^3/mile^2 not calculated.

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period: 5 years

B. Design Chance of Success: 80 percent

C. Equivalent Design Recurrence Interval: 5 years

D. Design Storm Duration: 6 hours

E. Design Storm Magnitude: 1.92 inches

F. Design Flow: 148 cubic feet / second/ square mile

G. Estimated Reduction in Infiltration: 27 percent

H. Adjusted Design Flow: 188 cfs per square mile

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats (narrative):

The following is a brief summary of the values within and along the fire area as well as the threats to those values.

Values at Risk:

The risk matrix below, Exhibit 2 of Interim Directive No.: **2520-2010-1**, was used to evaluate the Risk Level for each value identified during Assessment:

Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
	RISK		
Very Likely	Very High	Very High	Low
Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

Table of Critial Values at risk which were determined to be BAER emergencies

Critical Value	Value At Risk	Potential Threat	Probability of Damage or Loss	Magnitude of Consequences	Risk	Emergency ?	Treatment
Life/ Safety	Trails in the burned area	Falling snags	Possible	Intermediate to high	Moderate	Yes	Install hazard warning signs at trailheads
Life/ Safety	Trails in the burned area	Burned out cavities in trail tread	Possible	Intermediate to high	Moderate	Yes	Fill holes with rocks
Life/ Safety	Life/Safety Sawyers Bar County Road	Rock Fall	Likely	Moderate	High	Yes	Coordinate with county and public on communicating risk
Life/Safety and Property	Life/Safety at O'Brien Property and IdleWild Campground	Debris Flow	Possible	Moderate	Intermediate	Yes	Coordinate with NRCS. Signed winter closure of campground
FS Property	FS roads	Damaged or destroyed roads from debris flows and flooding	Debris flows and flooding Likely	Moderate to Very High	High to Very High	Yes	See roads attachment
FS Property	Trails in the burned area	Damaged or destroyed trails from debris flows or flooding	Possible and likely	Intermediate to high	Moderate	Yes	Install temporary drainage structures

Critical Value	Value At Risk	Potential Threat	Probability of Damage or Loss	Magnitude of Consequences	Risk	Emergency ?	Treatment
Non FS Property	Sawyers Bar Road crossing at Robinson Gulch	Debris Flow	Very Likely	Moderate	Very High	Yes	Coordinate with county and public on communicating risk
Non FS Property	Sawyers Bar Road crossings at small drainages between Robinson Gulch and Whites Gulch	Debris Flow	Likely	Moderate	High	Yes	Coordinate with county and public on communicating risk
Non FS Property	Sawyers Bar Road	Flooding	Possible	Moderate/High	Intermediate/ High	Yes	Coordinate with County and share assessment information
Natural resources	Hydrologic function	Flooding, channel diversion and erosion on Robinson Gulch	Likely	Moderate	High	Yes	Install waterbar on old road to redirect water back into Creek
Natural resources	Native habitat prone to invasion	Weeds	Very Likely	Moderate	Very High	Yes	Detection Surveys with Concurrent Treatment of new and/or small infestations
Natural resources	Coho Critical Habitat - NF Salmon R, N. Russian, S. Russian, White Gul, Sawmill Gul, Cow Cr	Sedimentation, debris flows	Possible to Likely	Moderate	Intermediate to High	Yes	Road/trail treatments
Cultural Resource	Archeological and cultural sites	Looting	Likely	Moderate	High	Yes	Block access to site by placing boulders on user created road
Cultural Resource	Archeological and cultural sites	Damage from excavator	Likely	Moderate	High	Yes	Equipment used to place a waterbar on ditch at Robinson Gulch will be monitored by an archaeologist

Values at Risk Narrative:

Debris Flow

The potential for loss or injury to human life exists at the O'Brien property near Robinson Gulch. The probability of damage or loss is Possible based on the debris flow modeling. The magnitude of consequences is Moderate due to potential of damage to structures and

infrastructure on the property. Therefore, the risk to human life and safety is Intermediate. Treatments Recommended – Coordinate with NRCS on private land treatments.

The potential for loss or injury to human life exists in the Idlewild Campground from debris flow. The probability of damage or loss is Possible based on the debris flow modeling. The magnitude of consequences for human life and safety is moderate. Therefore the risk is Intermediate. Treatment Recommendations – Administrative Closure of campground for the winter and spring.

There is potential for loss or damage to non-forest service property due to debris flows on the County Road 1C01 (Sawyers Bar Road) at the crossing at Robinson Gulch and the small drainages between Robinson Gulch and Whites Gulch. The probability of damage or loss is Likely due to the high probability of debris flow estimated by the model. The magnitude of consequences from human life and safety is Moderate resulting in a High risk. Treatment Recommendations – coordinate with Siskiyou County and public on communicating risk of debris flow at these crossings.

There is a potential loss or damage to road crossings due to debris flow. The probability of damage or loss is Likely due to the high model results and history of debris flows. The magnitude of consequence is Moderate property damage leading to a High risk. Treatments Recommended – See engineering report for details on needed road treatments.

Rock Fall

The potential for loss or injury to human life exists along County Road 1C01 (Sawyers Bar Road) from rock fall due to the high and moderate soil burn severity and the steep hillslopes is Likely. The magnitude of consequences for human life and safety is moderate. Therefore, the risk to human life and safety is High. Treatments Recommended – Coordinate with Siskiyou County and public to communicate risk of rock fall on the road.

Flooding

There is a low risk for flooding of private residences, outbuildings, roads, recreation residences, and Idywild campground. There is a low risk to domestic irrigation and hydroelectric water supply.

On Forest Service and Siskiyou County roads within burn perimeter, increased flood flows may overwhelm existing road crossing structures, causing washouts, and stream diversion down the road. This can result in increased sediment delivery to downstream channels. The magnitude of consequences is Moderate and the probability of damage is possible to likely resulting is an intermediate to high risk. Treatment recommendations include implementing Forest Service road treatments identified in the roads report as well as sharing assessment information with County.

Hydrologic function and erosion in Robinson Gulch may be impacted if increased flood flows in Robinson Gulch become diverted into an abandoned ditch and onto an old road bed. This diversion could washout the old road prism, leading to significant sediment being introduced to the Gulch and routed downstream to North Fork Salmon River, thus impacting salmon habitat. The magnitude of consequences is moderate and the probability of damage is likely resulting in a high risk. Recommended treatment is to Install a waterbar on old road bed to route flood water back into Robinson Gulch.

Risk to Roads

The roads in the burn area are at risk due to additional erosion damage as a result of increased risk of debris flows and storm water runoff velocity and volume on and across the road templates. The probability of damage in areas of high and moderate soil burn severity is likely to very likely.

The consequences of the fire on the roads will be increased storm water runoff erosion and debris flow damage, including potential total loss to the surfaces and templates. A secondary consequences to the system are the increased adverse effects, and decrease control, of storm water runoff to watersheds. Public safety is affected due to a significantly increased hazard resulting from destabilized rock slopes, falling trees, and damage to traffic safety structures and signs. The magnitude of consequences are moderate to very high depending on the location and type of road failure.

Risks to Trails

Critical Values identified on Forest Service trails were human life and safety, property (trail prism), and natural resources (T&E fisheries).

Burned roots resulting in collapsing of the trail tread on the PCT and other trails in the fire area presents a safety hazard to the recreating public utilizing the trails, especially those on horses that are traveling at higher rates of speed.

The presence of fire damaged trees along all trails within the burned area, would also present a safety hazard to recreationists with falling trees and fallen trees blocking the trail. In addition, due to the steep side slopes and the burning of the organic litter and the understory, it is expected that there will be some side slope raveling (soil, rock, and logs) that will block the trail tread in some locations, creating obstacles for trail users.

Timber erosion control structures were burned during the fire along the five trails that burned with high and moderate intensity. If run-off and sediment are not diverted from running directly down the trail tread, portions of the trail prism (FS property) may be lost with storm activity over the winter. Erosion and sedimentation is of particular concern along the East Whites Trail which is adjacent to East Fork Whites Gulch, a stream that provides habitat for T&E Coho and Sensitive Steelhead.

Endangered, Threatened, and Special Status Species - Fisheries

Coho, and Coho Critical Habitat, is the primary focus of fisheries risk determination due to its listing as Federally Threatened. Coho salmon Critical Habitat exists within the fire perimeter along NF Salmon River, Cow Creek, North Russian Creek, South Russian Creek, Sawmill Gulch, and Whites Gulch. Other special status species include Chinook salmon, steelhead, Pacific lamprey, and Klamath River lamprey, all of which are Forest Service Sensitive. The primary effect of the fire to aquatic species is the potential for sediment to impact habitat.

Probability of Damage or Loss of habitat for Federally Threatened Coho (and Critical Habitat) and FS Sensitive Chinook, steelhead, and lamprey species would be Possible to Likely. The Magnitude of Consequences would be Moderate. With these two elements combined, the risk is identified to be Intermediate to High for most locations. Treatments recommended – reduce erosion via implementation of road and trail treatments. Ensure County is aware of potential risk associated with Cow Creek and Robinson Gulch culverts by sharing assessment.

Spread of Invasive Weeds
The North Fork of the Salmon River has been actively monitored and treated for noxious weeds since the early 1990's by both the Forest Service and the Salmon River Restoration Council. Weed sites present in the fire footprint for the most part are small, widely scattered, and had little to no seed present at the time of the fire. There is a very high risk of spread of noxious weeds into previously uninfested areas including the Russian Wilderness. The potential introduction of new invasive species and/or spread of existing species by a variety of vectors, including equipment, sling loads, straw, mammals and birds into burned habitat. Additionally, weed infestations on private lands near the wilderness may spread to Klamath National Forest lands within and adjacent to the fire footprint

Impacts to Cultural Resources
One (1) archaeological site appears to be threatened by exposure and ease of access, making it vulnerable to vandalism and looting. In addition, one previously unrecorded ditch feature is at risk from a proposed hydrology treatment requiring work in the area to be monitored by an archaeologist. Many other cultural resources may also be at a heightened risk of impacts from proposed non-heritage Whites Incident BAER treatments.

B. Emergency Treatment Objectives: The primary objective of this Burned Area Emergency Response Report is to recommend prompt actions deemed reasonable and necessary to effectively protect, reduce or minimize significant threats to human life and property and prevent unacceptable degradation of natural resources. The application of these BAER treatments would minimize on-site damages to the identified values at risk. The emergency treatments being recommended by the Whites Fire BAER Team are specifically designed to achieve the following results.

Proposed Treatments
The objectives of the treatments are to:

1. Protect human life and safety by signing hazards, and reducing impacts from flooding and debris flows by treating Forest Service Roads and coordinating with NRCS.
2. Protect Forest Service investment in road and trail infrastructure by improving road and trail surface drainage through construction of waterbars, rolling dips, cleaning culverts, and storm-patrol.
3. Protect ecological values of critical habitat of federally listed habitat for Federally Threatened coho (and Critical Habitat) and FS Sensitive Chinook, steelhead, and lamprey species through road and trail work.
4. Protect ecological value of biological diversity by monitoring and treating as necessary, sites where introduction of noxious weeds may have occurred in previously uninvaded sites.
5. Protect cultural heritage sites from looting by blocking access of a user created road

C. Probability of Completing Treatment Prior to Damaging Storm or Event:

Land 90% **Roads/Trails** 90% **Protection/Safety** 90%

D. Probability of Treatment Success

	Years after Treatment

	1	3	5
Land	80	90	90
Roads/Trails	80	90	90
Protection/Safety	90	90	90

E. Cost of No-Action (Including Loss): $

F. Cost of Selected Alternative (Including Loss): $

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	**[X] Soils**	**[X] Geology**	**[ ] Range**
[ ] Forestry	**[ ] Wildlife**	**[ ] Fire Mgmt.**	**[X] Engineering**
[ ] Contracting	**[ ] Ecology**	**[X] Botany**	**[X] Archaeology**
[X] Fisheries	**[ ] Research**	**[ ] Landscape Arch**	**[X] GIS**

Team Leader: Joe Blanchard
Email jhblanchard@fs.fed.us **Phone**: (530) 841-4591 **FAX**: (530) 841-4571

Team:
Luke Rutten, Hydrologist
Verna Yin, Hydrologist Trainee
Juan dela Fuente, Geologist
Angie Bell, Geologist and GIS
Elaine Elliott, GIS
Marla Knight, Botanist
Katie Woodouse, Heritage
Jason Coats, Heritage
Dave Seiler, Engineering
Dave Young, Soil Scientist
Anna Courtney, Soil Scientist
Maija Menecks, Fisheries Biologist
Togan Capozza, Recreation

H. Treatment Narrative:

Land Treatments:

Noxious weed detection surveys concurrent with treatment by the following methods: hand pulling/digging, or mowing with weed-eaters.

Treatments to mitigate the noxious weed emergency include detection surveys in high priority areas and concurrent treatment of any new noxious weed populations located during those surveys. In areas of known noxious weeds that have increased due to the vulnerable habitat opened up by fire and suppression actions, detection surveys and treatment will occur to

control these increases as possible. Detection surveys will be conducted in currently weed-free areas along dozer lines created as contingency lines that remained uncovered, drop points, staging areas, heli-spots, heli-wells, wilderness trails, campgrounds, spike camps, drafting sites, and existing roads where invasion by noxious weeds is most probable.

Surveys will be conducted during appropriate seasonal times for detection of target noxious weed/invasive plant species, field season 2015. All newly discovered noxious weed populations on Forest Service land will be mapped and entered into the National Resource Inventory System (NRIS) according to National protocol. Treatment will be recorded as directed by the same National protocols. Locations of noxious weed sites mapped on private lands where permission has been granted to survey and treat, will be shared with the Siskiyou County Department of Agriculture. Noxious weed treatment will consist of hand pulling to root depth and if seed is present, plants will be bagged and disposed of properly.

Cost Estimated at $51,607

Implementation	Survey/Treatment Needs							Cost			
Implementation	Dozer lines (miles)	Hand lines (miles)	Drop Pts/Drafting Sites/Staging Areas etc. (Acres)	Roads (miles)	Trails (miles)	Acres adjacent to Wilderness	Spike Camps (Acres)	Labor	Mileage	Project Adm.**	Total
Klamath NF Force Account	2	5 miles overlap with trails	TBD	100	16		0.2	$7,795.00	$1,000.00	$2,765.00	$11,560.00
Salmon River Restoration Council (SRRC)	5	0	TBD	30	0		0	$14,680.00	$550.00	$3,817.00	$19,047.00
California Conservation Corp (via KNF Agreement)				1		35		$21,000.00	$0.00	$0.00	$21,000.00
								$43,475	$1,550	$6,582	**$51,607**

Protection of Cultural Resources

Blocking access by placing boulders across a user created road will inhibit ease of access for vehicular traffic and help reduce vandalism and looting from the site that is bisected by this road. Cost Estimated at $1780

Table 1. Cost of treatments for Site 05-05-54-0121; cost comparison of In-house or Private Contractor

GS-9 Archaeologist @ approx.	$25.00	/hour	X	8	=	$200.00
Excavator to place boulders					=	$1,000.00
				TOTAL	=	**$1,200.00**
OR						
Private Archaeological Consultant @	$80.00	/hour	X	8	=	$640.00
Per diem	$140.00	/day	X	1	=	$140.00
Excavator to place boulders					=	$1,000.00
				TOTAL	=	**$1,780.00**

Hydrologic function and erosion in Robinson Gulch

Increased flood flows in Robinson Gulch may become diverted into an abandoned ditch and

onto an old road bed. This diversion could washout the old road prism, leading to significant sediment being introduced to the Gulch and routed downstream to North Fork Salmon River, thus impacting salmon habitat.

At the location in Robinson Gulch in which a berm will be placed in order to keep water from gullying and scouring a historic ditch and road, the work of the heavy equipment will need to be monitored by an archaeologist to ensure there are no additional impacts to the feature.

Treatment: Install waterbar on old road bed to route flood water back into Robinson Gulch. Cost Estimated at $1780

Type	Rate	Hours	Cost
Excavator	$125	8	$1000
Archaeologist monitor	$97.5	8	$780
		Total	$1780

Roadside mastication

This treatment will reduce erosion on roads by providing cover to cut and fill slopes by masticating small trees. Younger plantations boarder the majority of the Forest Service roads in the fire perimeter. In areas of high and moderate soil burn severity there is 100% mortality of these small diameter plantation trees. In addition, these areas lack soil cover on cut and fillslopes leaving them at risk for increase erosion. This treatment involves using a masticator mounted on an excavator to grind fire killed plantation trees above and below roads. Treatment would occur in areas of mostly high and moderate soil burn severity. The excavator will not leave the road prism. This treatment is proposed on approximately 7 miles of roads.

Type	Daily Rate	Days	Cost
Excavator	$800	14	$11,200
Masticator	$200	14	$2,800
Operator	$240	14	$3,360
Swamper	$225	14	$3,150
		Total	$20,510

Roads Treatments:

Proposed treatments include storm patrol, culvert cleaning, replacing burned gates and installing hazard warning signs, culvert aprons, and critical dips. The work proposed herein is intended to stabilize the identified roads and structures in preparation for the anticipated increase in storm water runoff. Additional, several work elements involve public safety hazards.

Critical dips and culvert modification was prescribed for sections of roads that pass through or are down slope from locations with high and moderate soil burn severity. A few strategically placed rolling dips at in-board ditch cross drains were designed to prevent cascading cross-drain failure. Restoring road drainage features was also focused on areas of mostly high and moderate soil burn severity. Additionally, storm patrol is prescribed on level 3 roads and repairing burned gates and winter road closure is prescribed on level 2 roads. See Appendix 1

for detailed road treatments and costs.

The cost of this road work is $362,704.

Trail Treatments:

Tread Repair: On the five trails identified with burned out cavities beneath the tread, rock will be used to fill and reinforce the area. To reduce the probability of hikers or equestrians tripping or falling into holes.

Water Bars: On sections of the trails with steep grades, water bars will be installed or existing water bars cleaned to divert surface water, curb trail erosion and protect the investment in these facilities. Installation should be designed to last no more than 3 years -- permanent structures are not part of this treatment.

Trail work addressing areas with potential for trail collapse due to burned out roots and logs beneath the tread and erosion control measures will be implemented by a small force account trail crew. The implementation of the work will take place as soon as practical, before the winter season.

The cost of 5.5 miles of trail work is $15,287.

PERSONAL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): **Do not include contract personnel costs here (see contractor services below).**	COST/ITEM
Trail Crew (2 GS-5; 2 GS-4) @ 62.00 x 160 hour x 1 fiscal years =	$9,920.00
Crew oversight (GS-7) @ 31.00 x 80 hour x 1 fiscal years =	$2480.00
Gov 70 miles/day x 8 days x $0.72/mile x 1 year=	$403.20
Field per diem $34.50/day x 72 days =	$2484.00
Total	$15,287

Protection/Safety Treatments:

Hazard Warning Signs: Relative to the increased risk posed by wind thrown trees and deteriorated trail tread conditions within the burned area, safety-hazard notification signs should be developed, purchased and posted at all trailheads leading into the burned area. Signs will also be posted at Idlewild Campground.

Purchasing and installing hazard warning signs at trailheads that enter the burned area and at Idlewild Campground could be implemented almost immediately. This would help warn users of the possible dangers they may encounter along the trails or in the campground during the closed season. This treatment is practical and technically feasible.

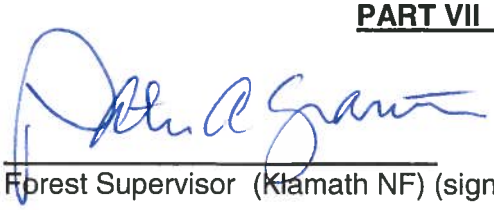
The cost of 12 signs is $1,174.

I. Monitoring Narrative: None requested

Part VI –Emergency Stabilization Treatments and Source of Funds

			NFS Lands				Other Lands			All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$	$
A. Land Treatments										
Weeds Treatment	Each	$51,607	1	$51,607	$0		$0		$0	$51,607
Protect Cultural Resources	Each	$1,780	1	$1,780	$0		$0		$0	$1,780
Waterbar road at Robinson	Each	$1,780	1	$1,780	$0		$0		$0	$1,780
Roadside Mastication	Each	$20,510	1	$20,510	$0		$0		$0	$20,510
Insert new items above this line!										
Subtotal Land Treatments				$75,677	$0		$0		$0	$75,677
B. Road and Trails										
Road work	Each	$ 362,704	1	$362,704	$0		$0		$0	$362,704
Trail Treatment	Each	$ 15,287	1	$15,287	$0		$0		$0	$15,287
Insert new items above this line!										
Subtotal Road & Trails				$377,991	$0		$0		$0	$377,991
C. Protection/Safety										
Trail & Campground Signs	Each	$ 98	12	$1,174	$0					$1,174
Subtotal Protection/Safety				$1,174	$0		$0		$0	$1,174
E. BAER Evaluation										
				$40,000	$0		$0		$0	$40,000
Insert new items above this line!				---	$0		$0		$0	---
Subtotal Evaluation				---	$0		$0		$0	---
G. Totals				$454,842						$454,842
Previously approved										
Total for this request				**$454,842**						**$454,842**

PART VII - APPROVALS

1.  9.12.14
Forest Supervisor (Klamath NF) (signature) Date

2. _____ _____
R5 Regional Forester (signature) Date